

WHAT IS CLAIMED IS:

1. A universal remote control unit for remotely controlling a plurality of remotely controllable devices each belonging to a respective device category, the universal remote control unit comprising:

a plurality of lights corresponding to each device category;

5 means for sequentially turning on each of the lights;

a processor having a programming mode for programming the processor to control a particular device;

10 means for placing the processor in the programming mode when the light associated with the device category of the particular device it is desired to program is lit; and

means for programming the processor to operate the particular device when the processor is in the programming mode.

2. The universal remote control of claim one, wherein the means for sequentially turning on the lights include a plurality of directional buttons.

3. A universal remote control unit for remotely controlling a plurality of remotely controllable devices each belonging to a respective device category, the universal remote control unit comprising:

5 an input unit for enabling a user to select a plurality of functions in connection with the operation of the plurality of devices;

a plurality of lights corresponding to each device category;

means for sequentially turning on each of the lights;

a transmitter;

10 a processor having a plurality of operating modes each of which corresponds to a different one of the plurality of devices, the processor being operable in each of the

plurality of operating modes to control transmission from the transmitter in response to activation of the function means by the user; the processor further having a programming mode for programming the operating modes of the processor;

15 means for placing the processor in the programming mode when the light associated with the device category of a particular device it is desired to program is lit; and

means for programming the processor to operate the particular device when the processor is in the programming mode.

4. A universal remote control unit for remotely controlling a plurality of remotely controllable devices each belonging to a respective device category, the universal remote control unit comprising:

5 an input unit for enabling a user to select a plurality of functions in connection with the operation of the plurality of devices;

a plurality of lights corresponding to each device category;

means for sequentially turning on each of the lights;

a transmitter;

10 a processor having a plurality of operating modes each of which corresponds to a different one of the plurality of devices, the processor being operable in each of the plurality of operating modes to control transmission from the transmitter in response to activation of the function means by the user; the processor further having a programming mode for programming the operating modes of the processor;

15 means for placing the processor in the programming mode when the light associated with the device category of a particular device it is desired to program is lit;

means for programming the processor to operate the particular device when the processor is in the programming mode; and

the processor being operable in a selected one of the plurality of operating modes upon receiving an input from the input units.

5. A universal remote control unit for remotely controlling a plurality of remotely controllable devices each belonging to a respective device category, the universal remote control unit comprising:

- a plurality of lights corresponding to each device category;
- 5 means for sequentially turning on each of the lights;
- a transmitter;
- a processor having a plurality of operating modes each of which corresponds to a different one of the plurality of devices, the processor being operable in each of the plurality of operating modes to control transmission from the transmitter in response to
- 10 activation of the function means by the user; the processor further having a programming mode for programming the operating modes of the processor,
- a keyboard having a plurality of buttons, at least one of the buttons upon actuation placing the processor in the programming mode when the light associated with the device category of a particular device it is desired to program is lit; and at
- 15 least one of the buttons upon actuation programming the processor to operate the particular device when the processor is in the programming mode; and
- the processor being operable in a selected one of the plurality of operating modes upon actuation of at least one of the buttons.

6. A system comprising:

- a remotely controllable device; and
- a universal remote control unit of any one of claims 1 - 5 for remote control of the device.

7. A method of enabling a universal remote control to remotely controlling a plurality of remotely controllable devices each belonging to a respective device category, the universal remote control unit having a plurality of lights corresponding to each device category and a processor having a programming mode

- 5       for programming the processor to control a particular device; which method  
comprises:
- sequentially turning on each of the lights;
  - placing the processor in the programming mode when the light associated with  
the device category of the particular device it is desired to program is lit; and
  - 10       programming the processor to operate the particular device when the processor  
is in the programming mode.

8.       The method of claim 7, wherein the universal remote control includes a plurality of directional buttons and the step of sequentially turning on the lights includes selectively actuating the directional buttons.

9.       The method of claim 8, wherein the universal remote control further includes a plurality of other buttons and the step of sequentially turning on the lights includes actuating at least one of the other buttons prior to actuating the directional buttons.

10.      The method of claim 7, wherein the universal remote control includes a plurality of buttons and the step of sequentially turning on the lights includes actuating at least one of the buttons.

11.      The method of claim 7, wherein the universal remote control includes a plurality of buttons and the step of programming the processor includes actuating at least one of the buttons.

12.      The method of claim 7, further including causing one of the lights to blink after the processor has been programmed.

13. The method of claim 1, wherein each of the devices has a code associated therewith, the universal remote control includes a plurality of buttons and the step of programming the processor includes sequentially turning on the lights by actuating at least one of the buttons to enter the code for a particular device.

14. A method for adapting a universal remote control unit to generate device command signals for controlling a selected one of a plurality of devices of different categories, the universal remote control unit having a plurality of lights corresponding to each device category and a processor having a programming mode  
5 for programming the processor to control a particular device; which method comprises:

setting the selected device to execute an observable action upon receipt of a response-evoking signal;

sequentially turning on each of the lights;

10 placing the processor in the programming mode when the light associated with the device category of the particular device it is desired to program is lit;

programming the processor to operate the particular device when the processor is in the programming mode by transmitting in sequence a plurality of response command signals each commanding the predetermined action until the selected device  
15 executes the observable action; and

terminating the programming of the processor when the device executes the observable action.

15. A universal remote control unit for remotely controlling a plurality of remotely controllable devices each belonging to a respective device category, the universal remote control unit comprising:

a plurality of lights corresponding to each device category;

5 a keyboard having a plurality of buttons for providing respective keyboard output signals upon user activation of respective ones of the buttons, the plurality of

buttons including a first group of functional buttons and a second group of digit buttons;

means for sequentially turning on each of the light in response to actuation of at least one of the functional buttons;

a processor having a programming mode for programming the processor to control a particular device;

means responsive to actuation of at least one of the functional buttons when the light associated with the device category of the particular device it is desired to program is lit for placing the processor in the programming mode; and

means responsive to actuation of at least one of the functional or digit buttons when the processor is in the programming mode for programming the processor to operate the particular device.

16. A universal remote control unit for remotely controlling a plurality of remotely controllable devices each belonging to a respective device category, the universal remote control unit comprising:

a plurality of lights corresponding to each device category;

a keyboard having a plurality of buttons for providing respective keyboard output signals upon user activation of respective ones of the buttons, the plurality of buttons including a first group of functional buttons and a second group of digit buttons;

means for sequentially turning on each of the light in response to actuation of at least one of the functional buttons;

a processor having a programming mode for programming the processor to control a particular device;

means responsive to actuation of at least one of the functional buttons when the light associated with the device category of the particular device it is desired to program is lit for placing the processor in the programming mode; and

means responsive to actuation of at least one of the functional or digit buttons when the processor is in the programming mode for programming the processor to operate the particular device; and

20 a transmitter operative under control of the processor data to transmit device control signals towards the selected one of the plurality of devices in the specific one of the different categories of devices as determined by the actuation of at least one of the functional or digit buttons.

17. A universal remote control unit for remotely controlling a plurality of remotely controllable devices each belonging to a respective device category, the universal remote control unit comprising:

5 a plurality of lights corresponding to each device category;  
a keyboard having a plurality of buttons for providing respective keyboard output signals upon user activation of respective ones of the buttons, the plurality of buttons including a first group of functional buttons and a second group of digit buttons;

10 means for sequentially turning on each of the light in response to actuation of at least one of the functional buttons;

a processor having a programming mode for programming the processor to control a particular device;

15 means responsive to actuation of at least one of the functional buttons when the light associated with the device category of the particular device it is desired to program is lit for placing the processor in the programming mode; and

means responsive to actuation of at least one of the functional when the processor is in the programming mode for programming the processor to operate the particular device; and

20 a transmitter operative under control of the processor data to transmit device control signals towards the selected one of the plurality of devices in the specific one

of the different categories of devices as determined by the actuation of at least one of the functional or digit buttons.

18. A universal remote control unit for remotely controlling a plurality of remotely controllable devices each belonging to a respective device category, the universal remote control unit comprising:

a plurality of lights corresponding to each device category;

5 a keyboard having a plurality of buttons for providing respective keyboard output signals upon user activation of respective ones of the buttons, the plurality of buttons including a first group of functional buttons and a second group of digit buttons;

10 means for sequentially turning on each of the light in response to actuation of at least one of the functional buttons;

a processor having a programming mode for programming the processor to control a particular device;

15 means responsive to actuation of at least one of the functional buttons when the light associated with the device category of the particular device it is desired to program is lit for placing the processor in the programming mode; and

means responsive to actuation of at least one of the digit buttons when the processor is in the programming mode for programming the processor to operate the particular device; and

20 a transmitter operative under control of the processor data to transmit device control signals towards the selected one of the plurality of devices in the specific one of the different categories of devices as determined by the actuation of at least one of the functional or digit buttons.

19. A method of enabling a universal remote control to remotely control a plurality of remotely controllable devices each belonging to a respective device category, the universal remote control unit having a plurality of lights corresponding



to each device category, a processor having a programming mode for programming the processor to control a particular device, and a keyboard having a plurality of buttons for providing respective keyboard output signals upon user activation of respective ones of the buttons, the plurality of buttons including a first group of functional buttons and a second group of digit buttons; which method comprises:

(a) user activation of at least one of the functional buttons to cause the lights to turn on in sequence;

(b) user activation of at least one of the functional buttons when the light associated with the device category of the particular device it is desired to program is lit for placing the processor in the programming mode; and

(c) user actuation of at least one of the functional or digit buttons when the processor is in the programming mode for programming the processor to operate the particular device.

20. The method of claim 19, wherein;  
step (c) key comprises user activation of at least one of the digit buttons.

21. The method of claim 19, wherein:  
step (c) comprises activation of at least two digit buttons, the combination of which represents a model number of a manufacturer of a device.

22. The method of claim 19, wherein step (a) comprises user activation of a first one of the functional buttons to cause a first one of the lights to turn on, followed by actuation of at least a second one of the functional buttons to cause the first light to turn off and a second light to turn on.

23. The method of claim 22, wherein the second button is a directional button.

24. The method of claim 19, wherein in step (a) the lights are cause to stay on for a predetermined period of time.

25. The method of claim 19, further including actuating at least one functional button after step (c) to enable programming of another particular device.